

temp. or generating power of alloy and polymer are identical

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Patent Family:

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Patent Details:

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Abstract (Basic): JP 8199080 A

In a shape memory composite consisting of a shape memory alloy memorising a given shape recovery motion and a shape memory polymer memorising a shape recovery motion in a direction different to the recovery motion of the shape memory alloy, the improvement comprises: (1) the shape recovery temp. of the shape memory alloy martensite, reverse (sic) transformation temp. ( $A_f$ ) is higher than the shape recovery temp. of the shape memory polymer glass transition temp. ( $T_g$ ); and (2) the temp. at which (recovery stress x cross section) or generating power of the shape memory alloy and (recovery stress x cross section) of the shape memory polymer are the same is set between ( $A_f$ ) and martensite transformation temp. ( $M_f$ ) of the shape memory alloy so that, above the set temp., the composite keeps the shape memorised by the shape memory alloy owing to the recovery motion to the shape memorised by the shape memory alloy and, below the set temp. and above the  $T_g$ , the composite keeps the shape memorised by the shape memory polymer owing to recovery motion to the shape memorised by the shape memory polymer.

USE - The shape memory composites are useful for drive systems for air conditioner outlet flaps and actuators for gastro-camera and industrial endoscopes, temp. display of electromagnetic cookers, valves for car exhaust gas prevention devices, siphon coffee makers, auto desiccators and fire prevention dampers.

ADVANTAGE - The shape memory composites have excellent corrosion resistance, electro-insulation properties and biocompatibility and can be obtd. economically.

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Derwent Class: A88; P73; X27

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International Patent Class (Additional): B32B-015/08; C08F-036/08; C08F-236/10; C08G-018/06; C08G-061/08; C22K-001-00

High polymer moulding prod. having reversible shape with temp. change -  
prepd. by making high polymer moulding and shape memory alloy into